

Alignment of Pantothenate Synthetases From Corn, Eucalyptus, Soybean, Tulip, Wheat, Rice, and Lotus

SEQ ID NO:2 cpj1c.pk005.c12fis [corn]  
SEQ ID NO:4 crln.pk0125.c12fis [corn]  
SEQ ID NO:7 eej1c.pk005.p14fis [eucalyptus]  
SEQ ID NO:9 ssl.pk0021.d7fis [soybean]  
SEQ ID NO:11 etb1c.pk004.j20fis [tulip]  
SEQ ID NO:13 wlm96.pk036.k8fis [wheat]  
SEQ ID NO:14 gi2292978 [rice]  
SEQ ID NO:15 gi2292921 [lotus]

1 90  
SEQ ID NO:2 MAAAAA-----VHEPEVIRDKAAMRAWSRRRAEGKAVALTPTMGFLHEGHLISAAVAAS-AGPIAVVVSIVVNPSQFAPTEDLA  
SEQ ID NO:4 MAAAA-----VHEPEVIRDKAAMRAWSRRRAEGKAVALTPTMGFLHEGHLISVAAVAAS-AGPVAVVVSIVVNPSQFAPTEDLA  
SEQ ID NO:7 MAAPP-----KEPLVITDKAEMREWSRSARRQGRRTIALVPTMGFLHEGHLISLVREARRRADA----VVVSIVVNPGQFAPSEDLS  
SEQ ID NO:9 MAPAP-----R---VISDKASMRWSRSRAQGLIGLVPTMGFLHAGHLISVAQARQLSDV----VAVSIYVNPGQFAPTEDLS  
SEQ ID NO:11 MAAAPAAASSAAASVSEPVIIITSKPEMLAWSRHHRRLSHTIALVPTMGSLHAGHLISLSHAASLADLT---VVSIVLNPTQFAPSEDLA  
SEQ ID NO:13 MAAAG-----EPEVIRDKAAMRAWSRRRAEGKTIVLVPTMGFLHEGHLISLVSA- AAV- PGPVAVVVSIVVNPSQFAPTEDLA  
SEQ ID NO:14 MA--P-----M---VISDKDEMCKWSRSMRSQGLIALVPTMGFLHEGHLISLVDAHNHADL----VAVSIYVNPGQFSPTEDELS  
SEQ ID NO:15 MAAP-----REPEVIRDKAAMRAWSRRRAEGKTVAVVPTMGYLHQHLSLSIAAAAASADPVAIVVTIYVNPSQFAPSEDLA

91 180  
SEQ ID NO:2 TYPSEDFAGDLRKLAAAT-GVVAAVFCPPDLYVRGSA--DRPSAAGASGGAVSCLEDAGGHAHETWIRVERLEKGLCGSSRPVFFRGGVATV  
SEQ ID NO:4 TYPSEDFAGDLGKLAAAT-GVVAAVFCPPDLYVRGSA--DRPSAASASGGAVSCLEDAGGHAHETWIRVERLEKGLCGSSRPVFFRGGVATV  
SEQ ID NO:7 TYPSEDFEGDLGKLRAVPGGVDVFRPQNLYDYGQREVG-GSGVESDNGSVSCLEEK-GMGHEAWVRVERLEKMGCMGKSRPVFFRGGVATV  
SEQ ID NO:9 TYPSEDFDGDVKKLASVPGGVDVVFHPRNLYDYGNKGGG-DVAEAGG--MVSCVE--SGSGHESWVRVEKLELGLCGKSRPVFFRGGVATV  
SEQ ID NO:11 TYPADLAADLRNLRAC-PSVAAVFCPTNPY-----ADGHETWVRVEELEERGLCGLSRPPVFFRGGVATV  
SEQ ID NO:13 TYPSEDLAAGDLRKLAAST-GAVHAFVFNPPDLYHRGAASVSGRRRAEPAGAAASSCLE-AGGDGHETWIRVERLEKGLCGASRPVFFRGGVATV  
SEQ ID NO:14 AYPSEDFQGDLOKLMSVPGGVDVVFHPRNLYDYGDDGGD-AVAECGGDGVVSCVDRRSFGFHEHETWVRAEKLEKPLCGKSRPVFFRGGVATV  
SEQ ID NO:15 TYPSEDFAGDLRKLAAST-GVVDVAVFNPPDLYVRGA--GRRGAGS--GGAISCLEAAAGDGHETWVRVERLEKGLCGASRPVFFRGGVATV

FIG. 1A

**FIG. 1B**